



Atty. Dkt. No. 040302-0280

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Shinji ASANO et al.
Title: HIGH-STRENGTH RACE AND
METHOD OF PRODUCING THE
SAME
Appl. No.: 09/996,597
Filing Date: 11/30/2001
Examiner: D. Yee
Art Unit: 1742

RESPONSE TO RESTRICTION REQUIREMENT

Commissioner for Patents
Box NON-FEE AMENDMENT
Washington, D.C. 20231

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Sir:

In response to the restriction requirement set forth in the Office Action mailed January 7, 2003, Applicants hereby provisionally elect Group I, Claims 1-2 for examination. Applicants further traverse the restriction.

Also, prior to examination of the present application on the merits, please amend the application as follows:

Please replace the following claim with the new version shown below:

3. (Amended) A high-strength race comprising a steel according to claim 1, wherein the surface has a hardness of 52 HRC or more.

Please add the following new claims:

8. (New) A high-strength race according to claim 3, wherein the hardness of 52 HRC or more is obtained by quenching and tempering.

9. (New) A high-strength race according to claim 3, wherein the steel further comprises, as the balanced part excluding Fe, one or more elements selected from the group consisting of the following elements in percentage by weight: Bi: 0.05% or less, S: 0.10% or less, Ca: 0.01% or less, Zr: 0.10% or less, Sb: 0.10% or less and Pb: 0.01% or less.
10. (New) A high-strength race according to claim 3, wherein the hardened surface is formed to contain a uniform martensite structure having a martensite ratio of 90% or more.
11. (New) A method for producing a high-strength race, comprising:
obtaining a steel comprising:
C: 0.30 to 0.60% in percentage by weight;
Si: 0.30 to 1.30% in percentage by weight;
Mn: 0.5 to 1.5% in percentage by weight;
B: 0.0050% or less in percentage by weight;
Cr: 0.1 to 0.5% in percentage by weight;
Mo: 0.1 to 0.5% in percentage by weight;
Si + Mo: 0.5 to 1.4% in percentage by weight;
Ni: 0.02 to 1.0% in percentage by weight;
the balance of Fe and unavoidable impurities; and
hardening the surface to have a hardness of 52 HRC or more.
12. (New) The method for producing a high-strength race according to claim 11, wherein the surface is hardened by induction hardening and tempering.
13. (New) The method for producing a high-strength race according to claim 12, wherein the hardened surface is formed to contain a uniform martensite structure having a martensite ratio of 90% or more.